PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:
H04Q 11/04

(11) International Publication Number: WO 00/32008
(43) International Publication Date: 2 June 2000 (02.06.00)

(21) International Application Number: PCT/IT99/00380

(22) International Filing Date: 23 November 1999 (23.11.99)

(30) Priority Data:
M198A002555 25 November 1998 (25.11.98) IT

(71) Applicants (for all designated States except US): ITALTEL S.P.A. [IT/IT]; Via A. di Tocqueville, 13, I-20154 Milano (IT). SIEMENS INFORMATION AND COMMUNICATION NETWORKS S.P.A. [IT/IT]; Viale Piero e Alberto Pirelli, 10, I-20126 Milano (IT).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): CARDINI, Dario [IT/IT]; Via Porpora, 125, I-20131 Milano (IT). GALLINO, Roberto [IT/IT]; Via Cordara, 32, I-15100 Alessandria (IT). PAGLINO, Roberto [IT/IT]; Via Castello Bulgaro, 7, I-13100 Borgo Vercelli (IT). PASTORINO, Alessandro [IT/IT]; Via della Maddalena, 3, I-15028 Quattordio (IT).
- (74) Agent: GIUSTINI, Delio: Siemens Information and Communication Networks S.p.A., Cascina Castelletto, I-20019 Settimo Milanese (IT).

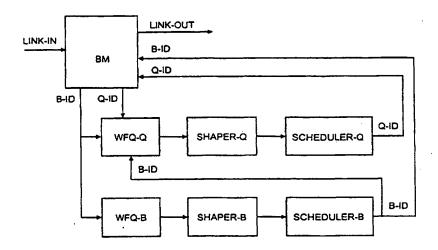
(81) Designated States: JP, NO, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHOD AND DEVICE FOR THE WFQ STATISTICAL MULTIPLEXING OF ATM FLOWS



(57) Abstract

It is disclosed a statistical multiplexer of transmission flows conveying ATM traffic between line interfaces and the inputs of a switching matrix placed in a network node, or vice versa. The above mentioned flows support connections (Virtual Channel) which lie below service classes of different quality, for instance, CBR, rt-VBR, ABR, nrt-VBR, and UBR. A minimum band is guaranteed to some single flows (ABR) in the multiplexed flow, the peak band is guaranteed (CBR) to other ones. A buffer is provided to contain some cell transmission queues, coming from the different flows. The queues are shared into functional blocks. The band available on the multiplexed flow is dynamically shared among the blocks and the queues of each bloc through a double WFQ technique. It results a double ring architecture, for blocks and queues, where each ring has its own WFQ block followed by a Shaper and a Scheduler to limit the peak cell-rate of blocks and queues. One single calendar serves all the queues.